202206UECM1404OE1

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Review of preview

Started on	Tuesday, 28 June 2022, 08:21 PM
Completed on	Tuesday, 28 June 2022, 08:21 PM
Time taken	8 secs
Grade	**0** out of a maximum of 10 (**0**%)

1
Marks: 1

Simon deposits 10,000 in a bank. During the first year, the bank credits an annual effective rate of interest i. During the second year, the bank credits an annual effective rate of interest (i-3%). At the end of two years, he has 11,400.00 in the bank. Calculate i. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 0.082813
Marks for this submission: 0/1.

2
Marks: 1

Money accumulates in a fund at an effective annual interest rate of i during the first 10 years, and at an effective annual interest rate of 3.5i thereafter. A deposit of 1 is made into the fund at time 0. It accumulates to 2.18 at the end of 18 years and to 4.45 at the end of 28 years. What is the value of deposit at the end of 13 years? _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 1.525856
Marks for this submission: 0/1.

3
Marks: 1

Fund A is invested at an effective annual interest rate of 8%.
Fund B is invested at an effective annual interest rate of 7%.
At the end of 23 years, the total in the two funds is 13000.
At the end of 34 years, the amount in Fund A is twice the amount in Fund B.
Calculate the total in the two funds at the end of 13 years. _____

Answer: ✗

Make comment or override grade

Incorrect
Correct answer: 6230.758532
Marks for this submission: 0/1.

4
Marks: 1

An investor puts 360 into Fund X and 360 into Fund Y. Fund Y earns compound interest at the annual rate of j > 0, and Fund X earns simple interest at the annual rate of 1.08j. At the end of 2 years, the amount in Fund Y is equal to the amount in Fund X. Calculate the amount in Fund Y at the end of 5 years. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 756.122997
Marks for this submission: 0/1.

5
Marks: 1

At an annual effective interest rate of i, $i > 0$, the following are all equal:

- the present value of 17,000 at the end of 7 years;
- the sum of the present values of 5,700 at the end of year t and 56,000 at the end of year $2t$; and
- 10,796.87 immediately.

Calculate the present value of a payment of 15,000 at the end of year $t+5$ using the same annual effective interest rate. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 4242.27975
Marks for this submission: 0/1.

6
Marks: 1

A deposit of 380 is made into a fund which pays an annual effective interest rate of 5% for 15 years. At the same time, 190 is deposited into another fund which pays an annual effective rate of discount of d for 15 years. The amounts of interest earned over the 15 years are equal for both funds. Calculate d. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.073795
Marks for this submission: 0/1.

7
Marks: 1

Brian and Jenny each take out a loan of X. You are given:

- Jenny will repay her loan by making one payment of 900 at the end of year 15. Brian will repay his loan by making one payment of 2000 at the end of year 15.
- The nominal rate of interest convertible monthly being charged to Jenny is exactly one-half the nominal rate of interest convertible monthly being charged to Brian.

Calculate X. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 403.262495
Marks for this submission: 0/1.

8
Marks: 1

Jeff deposits 10 into a fund today and 20 15-year later. Interest for the first 7 years is credited at a nominal discount rate of d compounded quarterly, and thereafter at a nominal interest rate of 8% compounded semiannually. The accumulated balance in the fund at the end of 30 years is 164. Calculate d. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.0692
Marks for this submission: 0/1.

9
Marks: 1

You are given $\delta_t = 3/(1+t)$. A payment of 320 at the end of 4 years and 640 at the end of 8 years has the same present value as a payment of 220 at the end of 3 years and X at the end of 7 years. Calculus X. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 0.212455
Marks for this submission: 0/1.

10
Marks: 1

You are given:

- $\delta_t = 1/(5+t)$; and
- the total interest earned during the first n years on an investment of 1 at time t = 0 is 0.5.

Determine n. _____

Answer:

Make comment or override grade

Incorrect
Correct answer: 2.5
Marks for this submission: 0/1.